This is a step-by-step set up procedure to communicate to the IAI Robocylinder controller using a PC with HyperTerminal in Modbus ASCII mode.

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Revision date: 7/2010

PC cable needed for this set up:

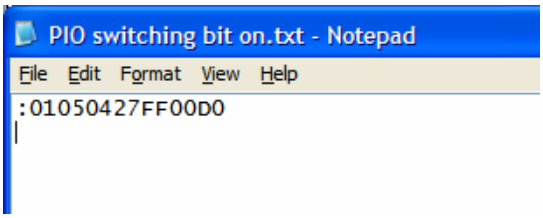
1. RS232 version
   IAI P/N RCB-CV-MW and P/N CB-RCA-SIO050

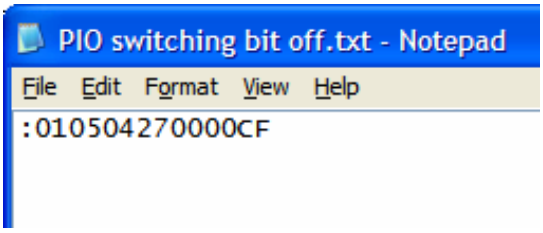
2. USB version
   IAI P/N CB-SEL-USB030
   IAI P/N RCB-CV-USB
   IAI P/N CB-RCA-SIO050

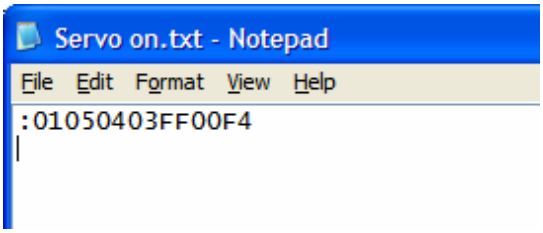
Compatible Robo controllers: ERC2, PCON, ACON, and SCON.

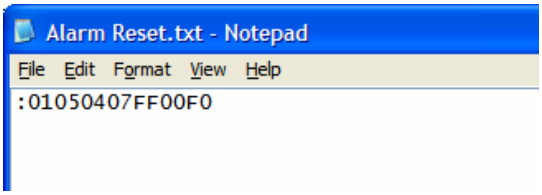
First, we need to create a few sample Modbus commands and then save them to a know location like your desktop. Open up your note pad and create the following Modbus serial commands.

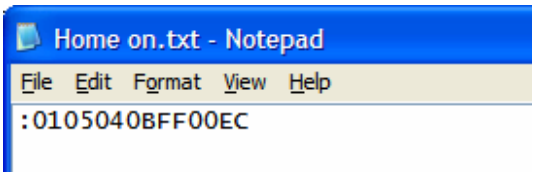
Note: You'll need to hit enter key after the string so the curser is blinking below the line.











Flip the Auto/Manual switch on the front of the PCON/ACON/SCON controller to the Auto position. ERC2 doesn't have the Auto/Manual switch.

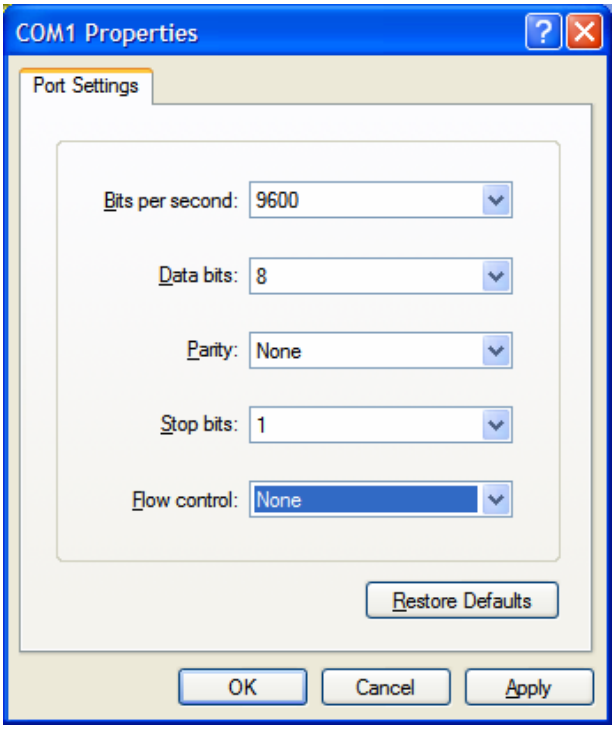
Plug in the PC cable P/N CB-RCA-SIO050 into the 9-pin DIN connector on the front of the controller.

Turn on the 24VDC power to the controller.

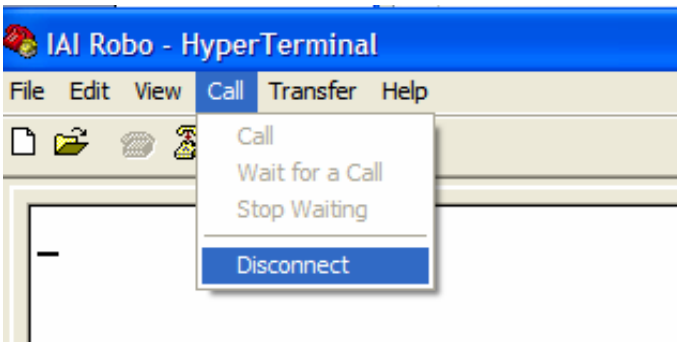
Open up the HyperTerminal in your computer and name your connection. I name this one to be IAI Robo and then click on OK.

Choose your own com port here. COM 1 is the default port for the RS232 to RS485 converter. Your com port will be different if you're using the IAI USB to RS485 converter. To find your own com port, go to device manager on your computer and click on the ports tab to find your own com port.

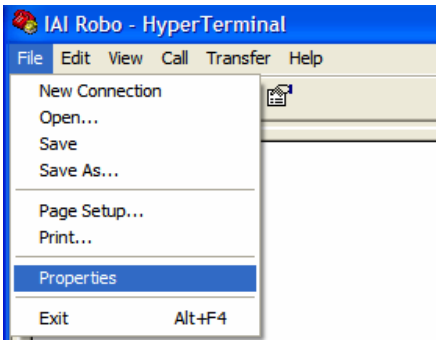
Configure your com port settings as shown below. Your baud rate may be different (usually defaults to 38400bps.)



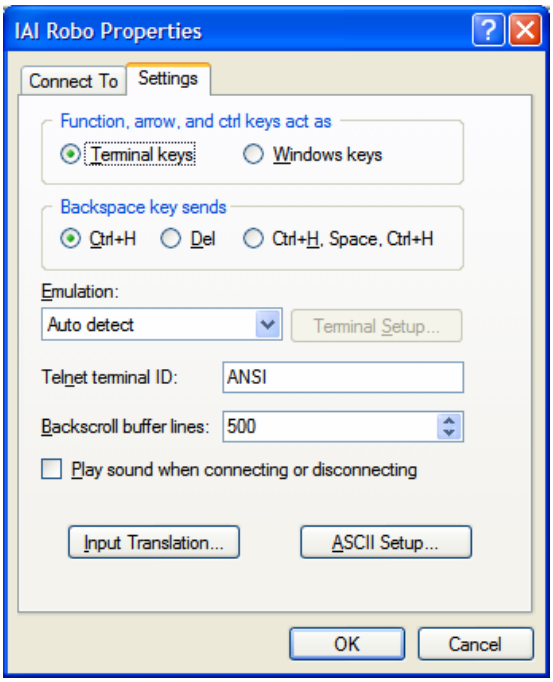
Click on call and select disconnect and then go into set up properties.



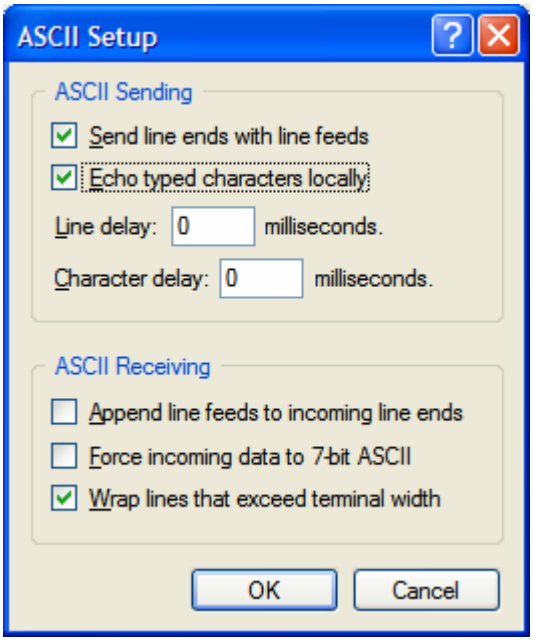
Click on file and then choose properties.



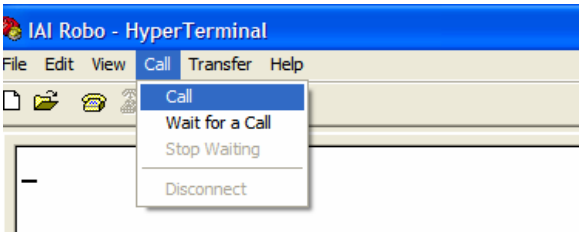
Click on settings and then click on ASCII setup tab.



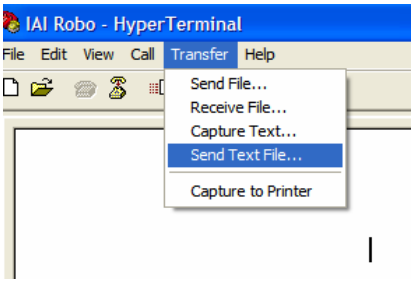
Make sure to check both options under ASCII Sending and then click on OK.



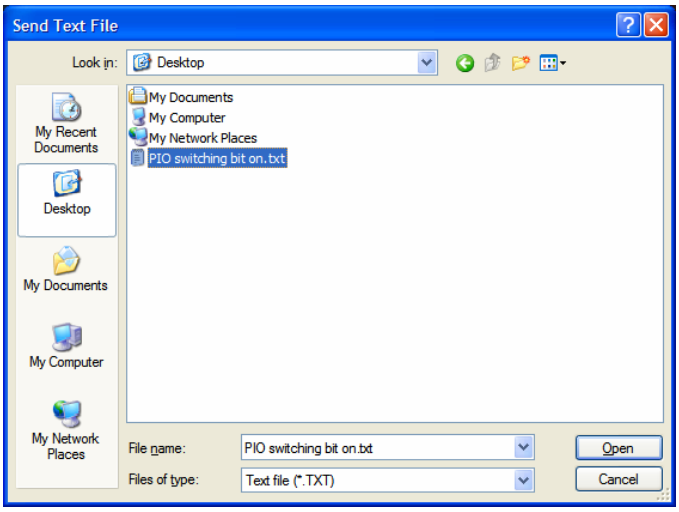
Click on Call to connect to the IAI Robocylinder.



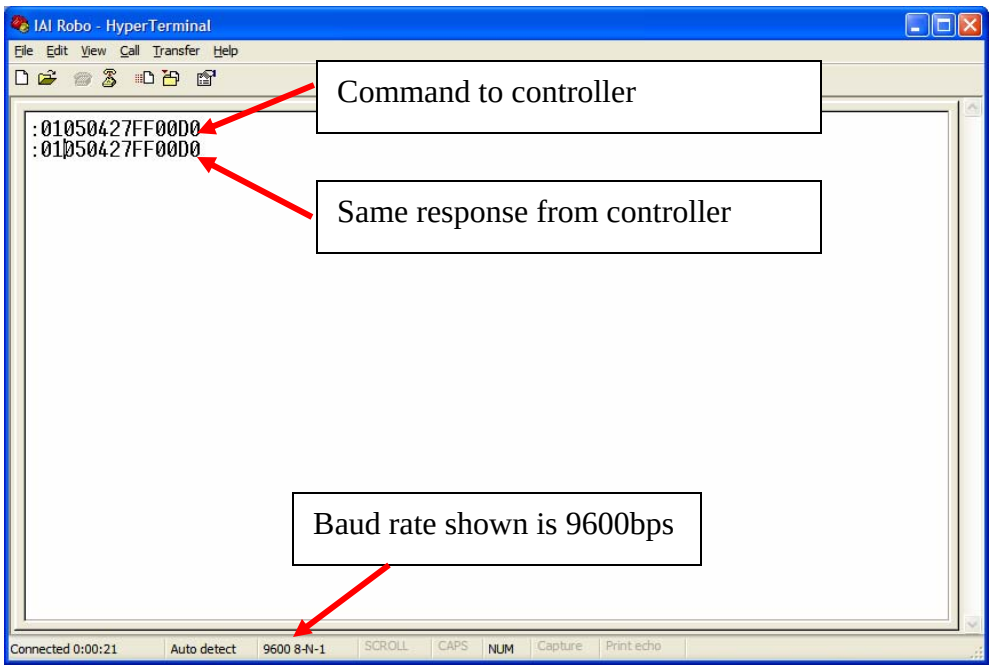
Click on Transfer and then choose Send Text File…



Go to desktop location and then click on the PIO switching bit on text file.
Click Open to send the command to the IAI controller.
Go to your own file location if you saved it to somewhere else.

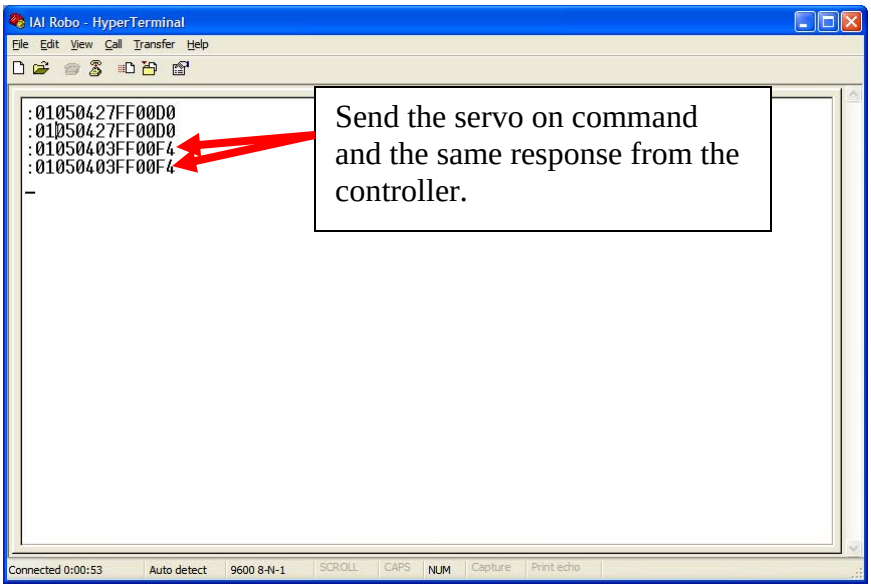


Your HT should look something similar to the following if everything is working correctly.

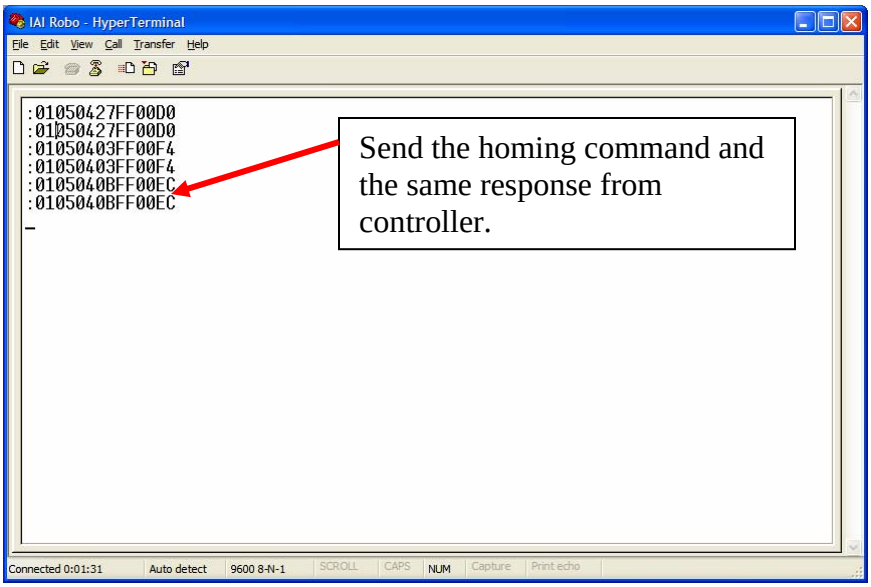


If you do not get the same response from the controller then you'll need to go back and check. Make sure the baud rate, com port, serial command, and the PC cable are correct.

Next, send the servo on command.



Next, send homing command.



Now, the set up is complete. We've shown how to send Modbus ASCII serial commands to the IAI Robo cylinders and get it response.

Notes and question:

The check sum is a pain in the butt to calculate on my PLC, can I disable the check sum?

No, unlike IAI proprietary serial protocol, I’m not aware of any way to disable the check sum. This is not IAI restriction but rather a part of the Modbus communication standard.

End